AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1.   (Currently Amended)   A vehicle software installation, upgrade, and diagnostic system for use in vehicle assembly, upgrade, and repair, comprising:

a portable memory device adapted to receive diagnostic information via an open architecture communications port of a vehicle; [[and]]

multiple processors connected to a system bus of the vehicle and adapted to generate diagnostic information;

an interface processor in communication with the open architecture communications port and connected to the system bus, wherein said interface processor is adapted to identify, for each of said multiple processors, files stored on a portable memory device connected to said open architecture communications port, to load software received over said open architecture communications port onto said multiple processors, and to transmit diagnostic information received from said multiple processors via said open architecture communications port; and

an external processor having an open architecture communications port and adapted to receive the diagnostic information from the portable device,

wherein the external processor is adapted to analyze the diagnostic information.

2.   (Original)   The system of claim 1, wherein said external processor is adapted to analyze the diagnostic information in order to verify successful installation and testing of vehicle software based on the diagnostic information, the vehicle software having been transferred from the portable device to vehicle processors via an interface processor connected to a system bus of the vehicle.

3.   (Original)   The system of claim 1, wherein said external processor is adapted to analyze the diagnostic information in order to identify software versions resident on the vehicle and related upgrade history, download an appropriate software upgrade relating to the vehicle based on the software versions and upgrade history, and store the appropriate software upgrade on the portable device.

4.   (Original)   The system of claim 1, wherein said external processor is adapted to diagnose vehicle problems based on the diagnostic information, wherein the diagnostic information is generated by vehicle processors based on sensed vehicle conditions and predetermined fault detection criteria.

5.   (Original)   The system of claim 1, wherein the open architecture interface port is a universal serial bus port, and the portable memory device is a universal serial bus flash disk.

6.　(Currently Amended)　A vehicle, comprising:

an open architecture communications port;

multiple processors connected to a system bus of the vehicle and adapted to generate diagnostic information;

an interface processor in communication with the open architecture communications port and connected to the system bus, wherein said interface processor is adapted to identify, for each of said multiple processors, files stored on a portable memory device connected to said open architecture communications port, to load software received over said open architecture communications port onto said multiple processors, and to transmit diagnostic information received from said multiple processors via said open architecture communications port.

7.　(Original)　The vehicle of claim 6, wherein said multiple processors are adapted to test vehicle software upon installation of the vehicle software, thereby generating diagnostic information indicating whether said interface processor has successfully installed the vehicle software.

8.　(Original)　The vehicle of claim 6, wherein said multiple processors are adapted to respond to a diagnostic query relating to software versions and upgrade history by communicating to said interface processor diagnostic information relating to identity of software versions currently installed on said multiple processors and related upgrade history.

9.   (Original)   The vehicle of claim 6, wherein said multiple processors are adapted to generate diagnostic information indicating problems with the vehicle based on sensed vehicle conditions and predetermined fault detection criteria.

10.   (Original)   The vehicle of claim 6, wherein said open architecture communications port corresponds to a universal serial bus port.

11.   (Currently Amended)   A vehicle software installation, upgrade, and diagnostic method for use in vehicle assembly, upgrade, and repair, comprising:

establishing communication between a portable memory device and an interface processor of a vehicle via an open architecture communications port of the vehicle, wherein the interface processor is connected to multiple processors of the vehicle via a system bus of the vehicle;

employing the interface processor to identify, for each of said multiple processors, files on the portable memory device, and to load software received over the open architecture communications port onto the multiple processors;

transferring diagnostic information from the multiple processors to the portable memory device via the interface processor;

establishing communication between the portable memory device and an external processor via an open architecture communications port of the external processor; and

analyzing the diagnostic information via the external processor.

12. (Original) The method of claim 11, comprising transferring vehicle software from the external processor to the portable memory device.

13. (Original) The method of claim 11, comprising transferring vehicle software from the portable memory device to the multiple processors via the interface processor, wherein the multiple processors are adapted to automatically test the vehicle software, thereby generating the diagnostic information.

14. (Original) The method of claim 11, comprising verifying successful vehicle software installation and testing based on the diagnostic information.

15. (Original) The method of claim 11, comprising identifying software versions resident on the vehicle and related upgrade history based on the diagnostic information.

16. (Original) The method of claim 11, comprising identifying and downloading via the external processor an appropriate software upgrade relating to the vehicle based on the diagnostic information.

17. (Original) The method of claim 11, comprising preloading the portable memory device with software adapted to initiate a diagnostic function with the multiple processors.

18.   (Original)   The method of claim 11, comprising diagnosing vehicle problems based on the diagnostic information, wherein the diagnostic information is generated by the multiple processors based on sensed vehicle conditions and predetermined fault detection criteria.

19.   (Original)   The method of claim 11, comprising employing a universal serial bus port as the open architecture communications port.

20.   (Original)   The method of claim 11, comprising employing a universal serial bus flash disk as the portable memory device.

21.   (New)   The vehicle of claim 6, wherein said portable memory device stores software for multiple vehicle types, and said interface processor identifies the files based at least in part on vehicle type.